

Section 1

Introduction

Challenges involving water supply within King County (County) and the adjacent region have evolved in recent years. New developments have come in the form of the Safe Drinking Water Act (SDWA), Endangered Species Act (ESA), State water rights, and a host of related issues. At the same time, there has been extensive discussion of renewed or revamped institutional arrangements for delivering water services within the County. This report provides a compilation of available water supply and demand information for the County, and presents strategies for addressing future water supply needs, including potential regional solutions, local utility plans for meeting identified shortfalls, and general approaches for small systems that have limited financial, technical, and administrative resources.

1.1 Purpose of Report

In order to meet the challenges associated with water resources in King County, Seattle Public Utilities (SPU), the major regional water supplier within the County, has increasingly partnered with other government agencies and organizations. Key partners within the County include the Cascade Water Alliance, Water Supply Association, East King County Regional Water Association, South King County Regional Water Association, King County, and the many individual purveyors within the County area. In the broader region, SPU, along with its partners mentioned above and other utilities and water supplier organizations in Pierce and Snohomish Counties, has been active in the Central Puget Sound Water Suppliers' Forum. Finally, SPU and its regional partners work closely with the Washington State Departments of Health (DOH) and Ecology (Ecology) in developing solutions for outstanding water-resource issues.

The many collaborative efforts addressing interrelated issues highlight the need for a single report on water supply needs and potential solutions within the County area. To meet this need, the Consolidated Report on Water Supply (Consolidated Report) describes water supply needs in the County to year 2020.

Information from various sources of data has been reviewed and integrated to provide a comprehensive understanding of water supply and demand. From this compilation of data, potential water-supply needs and related issues are identified, based upon analysis of projected demands, and availability of source water. Water quality issues are reviewed, in terms of their potential impact on the availability of supply. In addition, potential solutions are

explored, ranging from solutions for small systems to regional strategies for meeting water-supply needs.

The Consolidated Report builds on related efforts in the County and the Central Puget Sound region. These related efforts include:

- ❑ The Central Puget Sound Regional Water Supply Outlook (Phases 1 and 2), developed by the Central Puget Sound Water Suppliers' Forum;
- ❑ A report entitled "Water Demand and Sources of Supply in King County," (January 12, 2000) developed by SPU in collaboration with King County, the Central Puget Sound Water Suppliers' Forum, Cascade Water Alliance, and the East King County Regional Water Association;
- ❑ Local planning efforts of individual water suppliers;
- ❑ Watershed planning efforts underway in four Water Resource Inventory Areas (WRIAs); and,
- ❑ Coordinated Water System Plans (CWSPs) in East and South King County and Vashon Island.

Collectively, these related efforts have addressed numerous aspects of water supply in King County and the surrounding region. Maintaining consistency with these related efforts is a key priority of the Consolidated Report. The report utilizes the work products of these various efforts, and compiles findings into a single report for informational purposes.

In addition to drawing on results from related reports, the Consolidated Report extends the analysis of water supply to cover issues that have not been fully explored previously on a countywide basis. These issues include the roles of small⁽¹⁾ Group A water systems, Group B water systems, individual household wells, and self-supplied commercial and industrial water users. In addition, the Consolidated Report addresses issues such as trends in water quality and related regulations that affect water supplies, potential implications of the ESA, as well as the ability of small systems to adapt to increasingly complex requirements and financial needs. These issues have implications for water supply management within the County.

⁽¹⁾ The term "small system" is used throughout this report. Various regulatory programs and studies have defined small systems in different ways. Therefore, for the purposes of this report, no single definition is adopted. Instead, the term is used in a general sense, to describe systems with a relatively small customer base which are constrained in their ability to finance capital improvements, address regulatory requirements, etc. Most of these systems serve less than 500 customers. It is recognized that some systems with fewer than 500 connections may not have these characteristics, while some systems with more customers may share characteristics of "small systems."

1.2 Data Sources

Within the County, there are a wide range of water systems, varying in size and type. No single source of data covers all of these systems. Therefore, the following sources of data have been reviewed in order to obtain information for the Consolidated Report:

- ☐ Central Puget Sound Regional Water Supply Outlook
- ☐ Water System Plans (WSP) for selected individual water systems
- ☐ Surveys sent to selected, individual water systems, as a part of the Consolidated Report effort
- ☐ Report: "Water Demand and Sources of Supply in King County"
- ☐ East King County Coordinated Water System Plan (October 1989)
- ☐ South King County Coordinated Water System Plan (October 1989)
- ☐ DOH Drinking Water Automated Information Network (DRAIN) database
- ☐ Seattle-King County Department of Public Health database
- ☐ DOH Geographical Information Systems (GIS) database
- ☐ King County GIS data
- ☐ Interviews with DOH staff
- ☐ Interviews with King County staff
- ☐ Interviews with area water supply professionals
- ☐ Review of Ecology Water Rights Application Tracking System (WRATS) database

These data sources are described in more detail in Appendix A.

1.3 Process for Developing Consolidated Report

Planning for water supply in King County and the larger region has increasingly relied on collaborative efforts among water suppliers, local governments, State agencies, and stakeholders in recent years. Development of the Consolidated Report drew on the results of collaborative planning activity, particularly as represented by the 2001 Central Puget Sound Regional Water Supply Outlook.

The Consolidated Report was funded by SPU, and was researched and produced by Economic and Engineering Services, Inc. (EES). SPU invited representatives of several key agencies and organizations to review and comment on drafts of the report as it was developed. Through written comments and meetings, the following organizations provided substantial input to this work product:

- ☐ King County, Department of Natural Resources
- ☐ East King County Regional Water Association
- ☐ South King County Regional Water Association
- ☐ Cascade Water Alliance
- ☐ Water Supply Association
- ☐ State Department of Health (DOH)

1.4 Report Organization

The report offers a comprehensive characterization of water supply and demand within the County, followed by identification of potential solutions to water supply needs.

- ☐ Section 2 characterizes water supply and demand within the County, including detailed descriptions of the types of water systems and sources of supply. Also provided are population and water demand forecasts for the County as a whole.
- ☐ Section 3 provides a discussion of issues relating to the ESA and how these may impact the availability of water supplies in the future.
- ☐ Water supply solutions with countywide applicability are discussed in Section 4, including enhanced conservation, conventional supply projects, wastewater reuse, and stormwater utilization. Though presented in a regional perspective, these solutions are applicable to localized situations as well.
- ☐ Section 5 presents analyses used to identify individual utilities that may have water supply shortfalls prior to 2020. Descriptions of planned supply improvements developed by specific utilities to address those shortfalls are also provided.
- ☐ The focus is shifted to the needs of small systems in Section 6. Water quality, administrative, and financial issues are discussed, followed by a potential solution strategy to address the needs of small systems⁽²⁾ that may experience difficulties now or in the future in providing adequate and safe water for their customers.
- ☐ Section 7 provides a discussion of policy implications related to the issues highlighted throughout the report.

⁽²⁾ For definition of “small system,” see footnote on page 1-2.